



# Wireless N USB Adapter

Model # AWLL6077

User's Manual

Rev. 1.0

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# 1. Introduction

Congratulations on your purchase of the Wireless N USB Adapter. Its high bandwidth combined with extended wireless coverage delivers fast and reliable connection for all of your networking applications. The adaptor will yield a higher throughput is it is used with other Airlink101® Wireless 300N and Wireless N products.

A full range of security features such as WEP, WPA-PSK, and WPA2-PSK will provide you the highest level of wireless network security. The bundled Wireless Utility allows you to set up the adapter with an easy-to-use user interface. The Wireless N USB Adapter works with 802.11g and 802.11b network devices ensuring compatibility with your existing wireless products.

## 1.1 Package Contents

Before you begin the installation, please check the items of your package. The package should include the following items:

- Wireless N USB Adapter
- USB Cable
- Quick Installation Guide
- Installation CD (Driver/Utility/Manual)

## 1.2 Features

- Industry's highest wireless data rate with IEEE 802.11n draft 2.0 standard
- WPS button for easy connection to the existing wireless network
- WPA2, WPA, and WEP enhanced security to provide a full protection for your wireless connection
- Higher data rate to increase the reliability and stability of wireless connection
- Great for environments that need higher wireless data traffic
- Fully backward compatible with 802.11b/g
- RoHS compliant

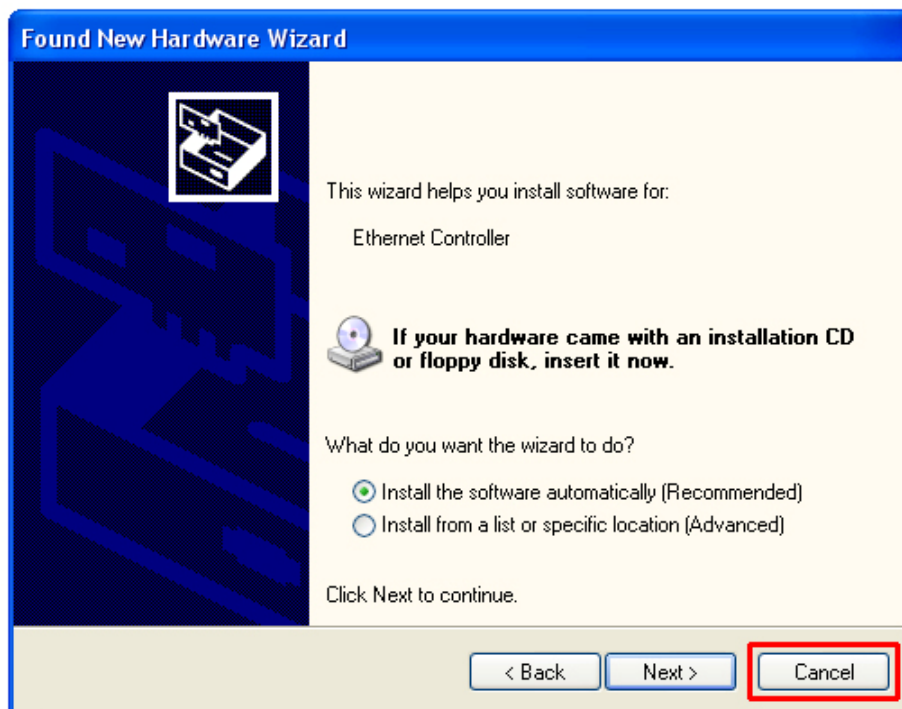
## 2. Installation

This section provides instructions on how to install the **Wireless N USB Adapter**. The driver is installed along with the utility.

**Step 2.1** Insert the USB adapter into an available USB port of the computer.

### Step 2.2

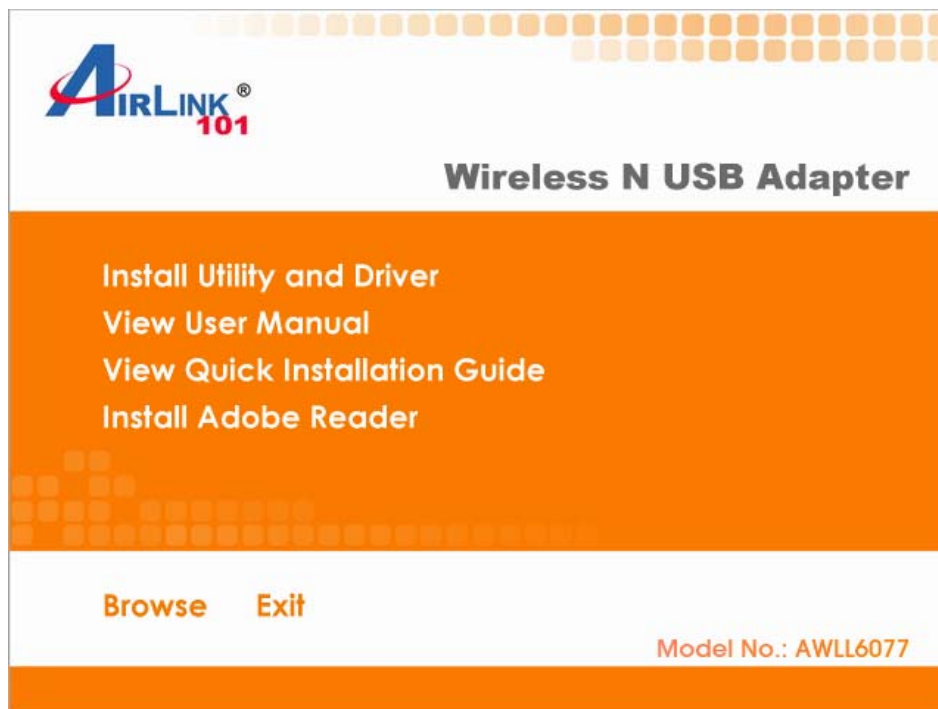
**Windows 2000/XP Users:** Windows will launch the **Found New Hardware Wizard**. The Found New Hardware Wizard appears differently depending on your computer operating system. Click **Cancel** to quit the wizard and insert the Installation CD into your CD drive. Continue to **Step 2.3**.



**Windows Vista Users:** Windows will install its built in drivers for this adapter. Give permission to Windows to install the device driver software. After you see the Windows message telling you that the driver was installed successfully, insert the installation CD into the CD drive.



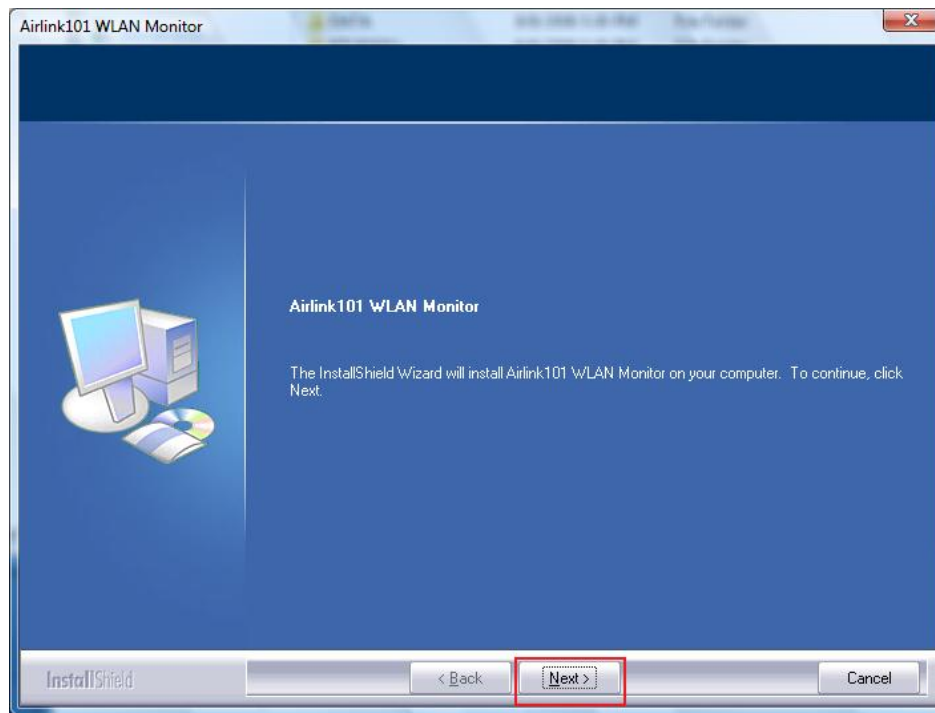
**Step 2.3** The Autorun screen will pop up. Select **Install Utility and Driver** from the menu.



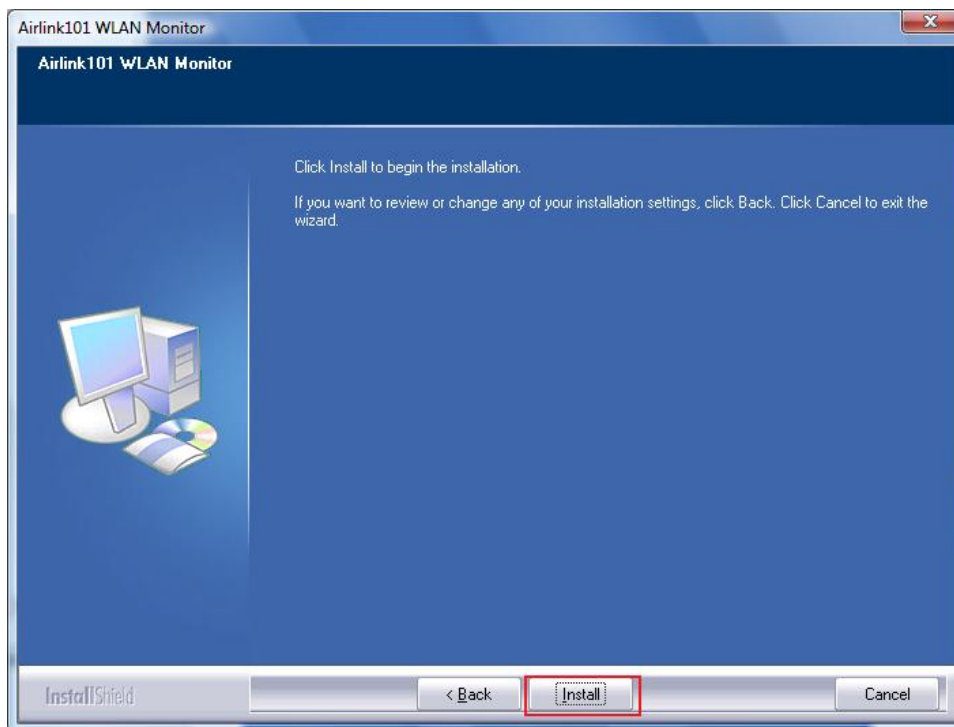
**Note:** If the Autorun screen doesn't appear automatically, or if you get a blank white screen, go to **Start, Run**, and type **D:\Utility\Setup.exe** (where **D** is the letter of your CD drive) and click **OK**.

**Windows Vista Users:** When you get a warning message make sure you click **Allow** to give permission to continue with the installation of the driver software.

**Step 2.4** The Airlink101 WLAN Monitor screen will popup. Click **Next** at the screen.



**Step 2.5** Click **Install** to begin the installation.



## Step 2.6

Give Permission to Windows to install the driver software

For Windows XP click **Continue Anyway** at the Windows Logo Screen.  
For Windows 2000, click **Yes** at the Digital Signature Not Found prompt.  
For Windows Vista, click the **Install this driver software anyway** button.

Windows will give you a message popup telling you it is installing the AirLink 101 Wireless device driver and the Airlink 101 Wireless Monitor.

**Step 2.7** Click **Finish** to complete the installation.

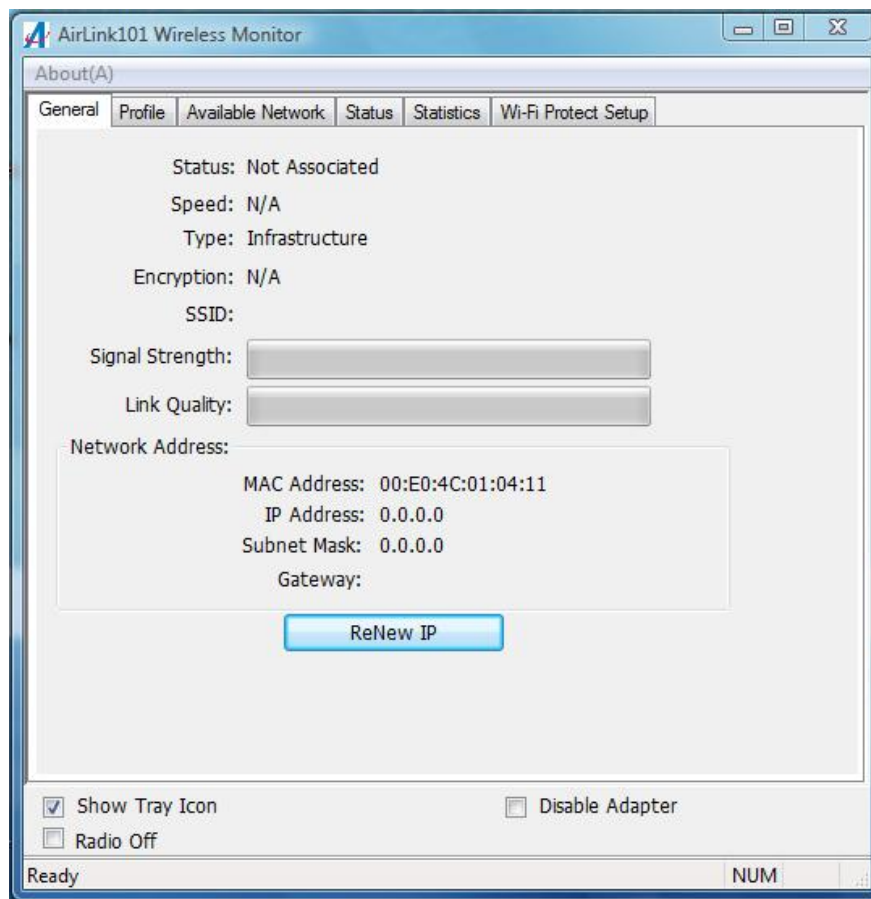
### 3. Configuring the Adapter

This section describes how to connect your wireless adapter to a wireless network.

Open the Airlink101 Wireless Monitor utility by double clicking on the Airlink101 Wireless Monitor Utility icon in the system tray at the bottom right-hand corner of your screen.



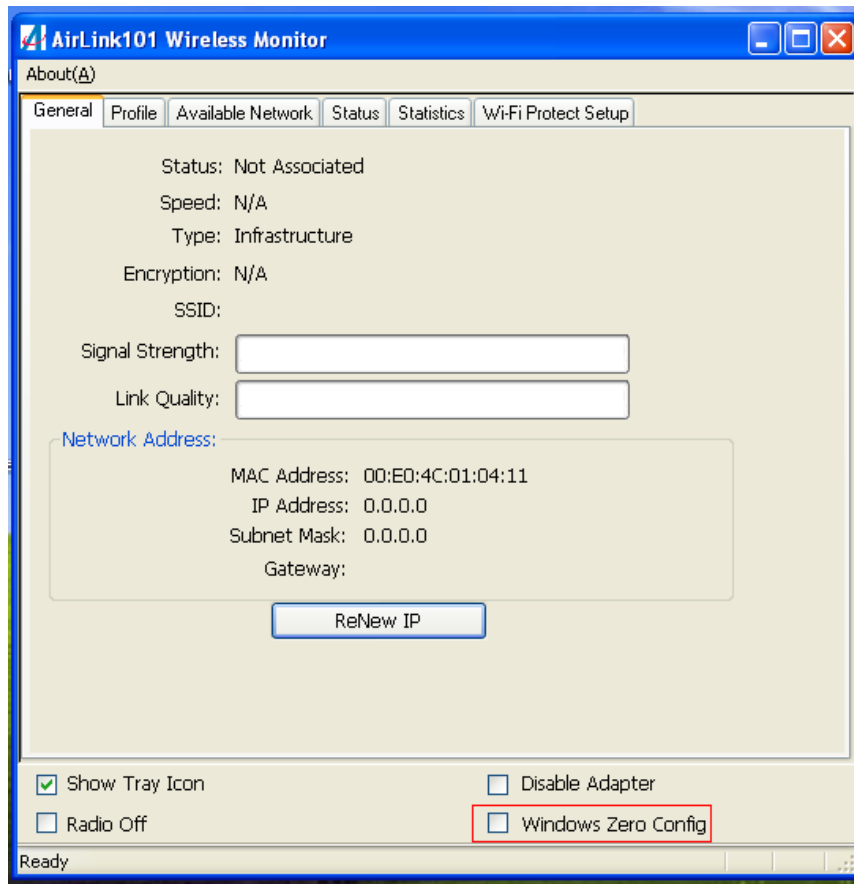
**Windows Vista** will show:



Skip the following steps. Continue to **Step 3.1**.



Windows XP will show:



The Airlink101 Wireless Monitor of Windows XP gives you an option to Start or Stop the Wireless Zero Configuration. It is not recommended to check this Windows Zero Config box, if it is checked, you will be using the XP's wireless utility instead of the Airlink101 Wireless Monitor utility to monitor the connection.

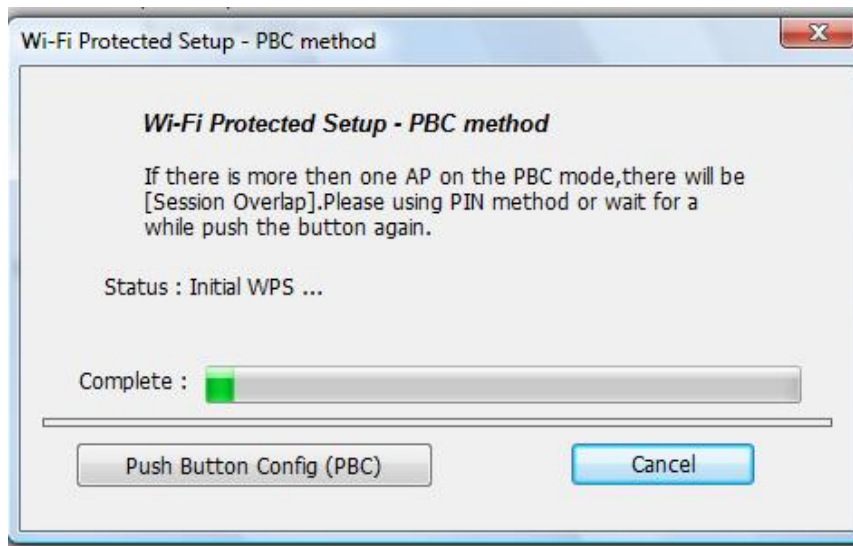
### Step 3.1

The Wi-Fi Protected Setup™ (**WPS**) is a new and easy way to configure the encryption for your wireless network clients. In order to use it, you need to have a router that supports the WPS feature. If your router doesn't support WPS, continue to Step 3.2.

1. Push the WPS button of the Adaptor.



The 'Wi-Fi Protected Setup – PBC method' window will popup to acknowledge you the Adapter is starting to establish a connection.



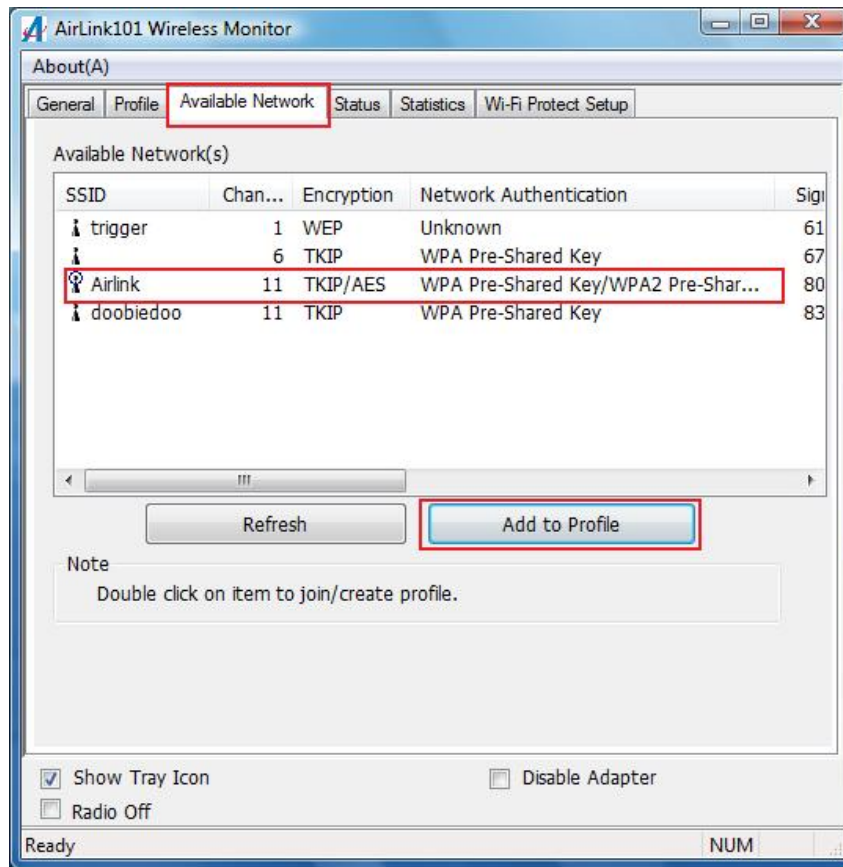
2. Push the WPS button of the Router. The picture shows Airlink101 AR670W router.



3. The router will now start the handshake with the wireless adapter. The connection will be established in 2 minutes. Continue to Step 3.4.

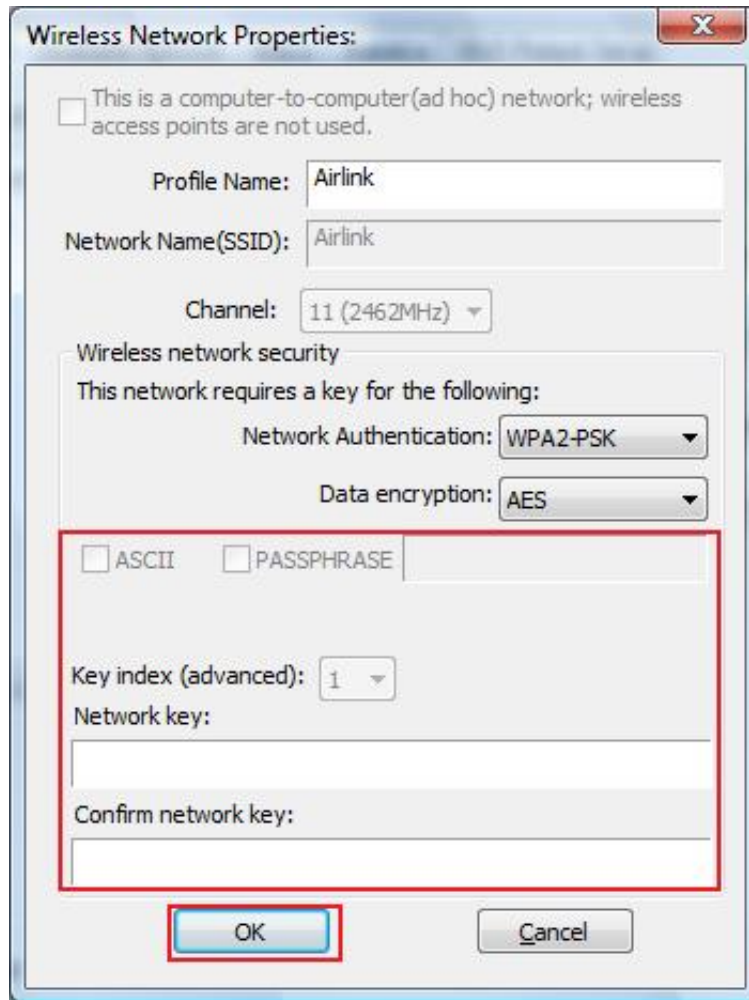
If the connection is not able to establish, continue to Step 3.2.

**Step 3.2** Click the **Available Network** tab, select the **SSID** (Network Name) of the wireless network you wish to connect to, and click **Add to Profile**.



If the network that you are attempting to connect does not have encryption enabled, you will receive a warning about connecting to an unsecured network. Click **OK** to complete the connection. Go to Step 3.3.

If the network that you are attempting to connect is configured for encryption, the Wireless Network Properties window will appear:

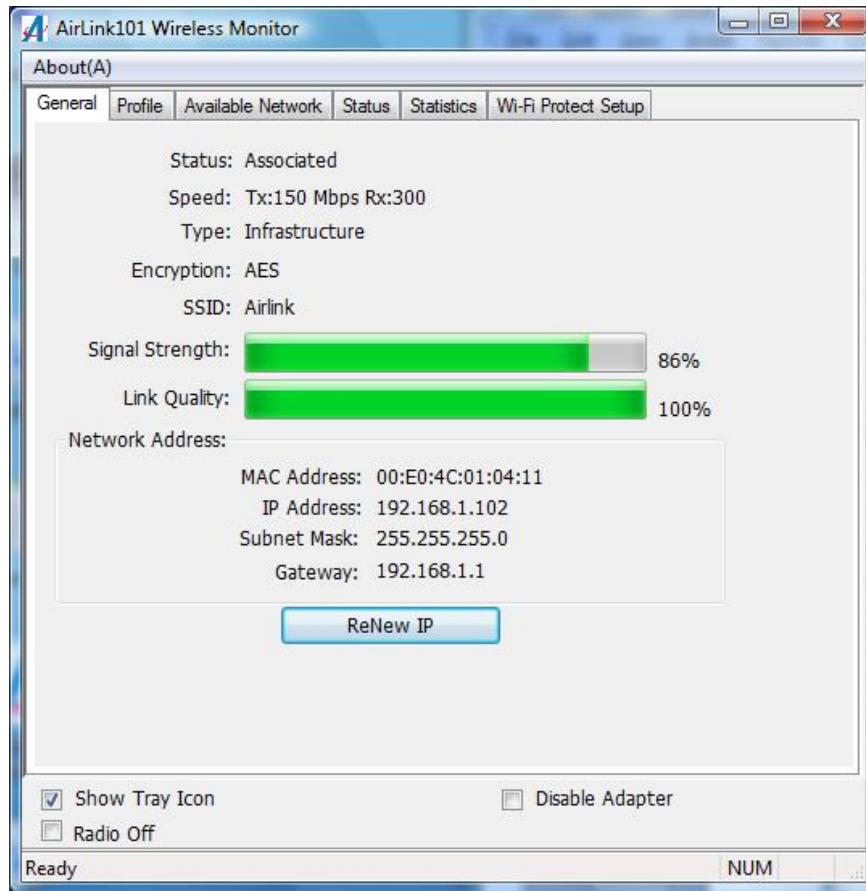


The Adapter may automatically detect the Network Authentication and the Data encryption. You need to enter the security settings in the appropriate boxes according to the settings of the router and then click **OK** to connect.

If you need information regarding the encryption settings, please refer to Section 4.7, Configuring Encryption of this manual.

**Step 3.3** The connection is now established. Click on the Utility icon to check the status of your connection. The **Status** should say Associated, and there will be green bars next to **Signal Strength** and **Link Quality**.





## Troubleshooting

If you are experiencing problems with the connection (unable to connect, low signal strength, slow connection speed, not working, unstable wireless connection) you may want to tune your router's signal by changing the channels on the router and/or by adjusting the direction of the antenna(s).

You do not need to change the channel on the adapter; it will automatically pick up the new channel after you reboot the router.

The router has 11 different channels to choose from. Start with channel 1 and work your way up. Each time you change the channel on the router, make sure that you restart the computer of the router before trying to connect again. Keep going through the channels until you find one that gives you a stable connection.

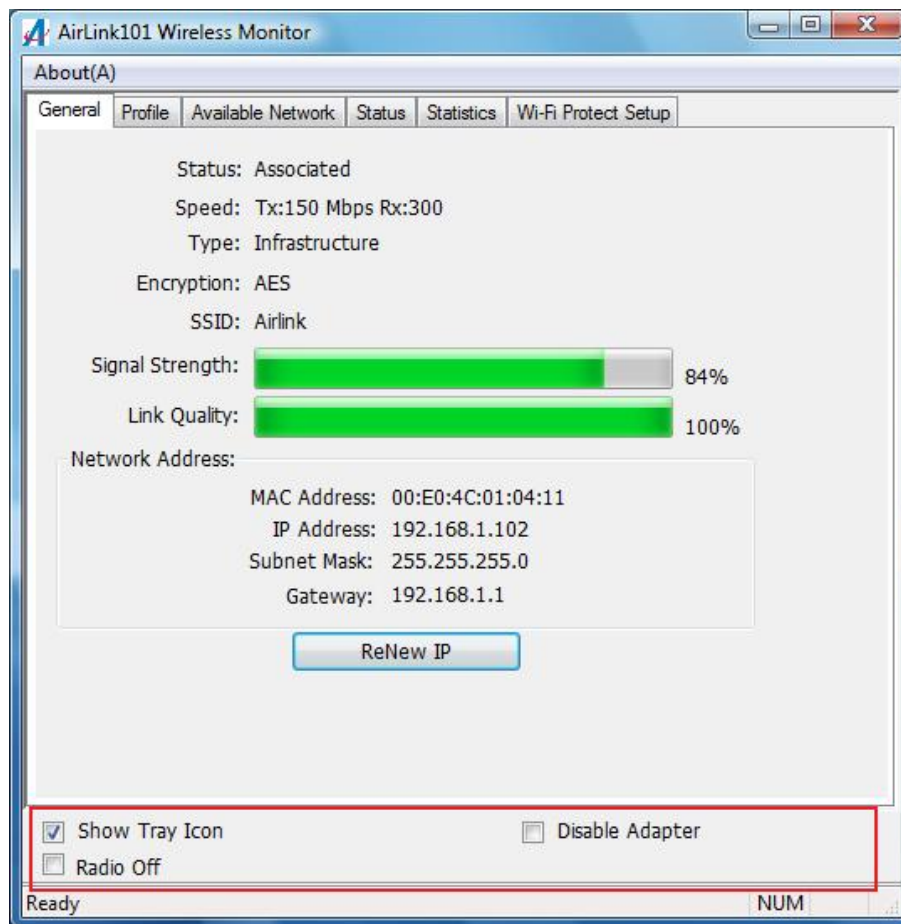
For instructions on changing channels, refer to the documentation that came with your router.

## 4. Wireless Monitor

This section describes the various functions of the Wireless Monitor that you can configure, including the settings of wireless encryption.

### 4.1 General

The **General** tab provides you with the status of the current connection, including signal, network name (SSID) and IP Address.



At the bottom you have options for controlling the utility and adapter.

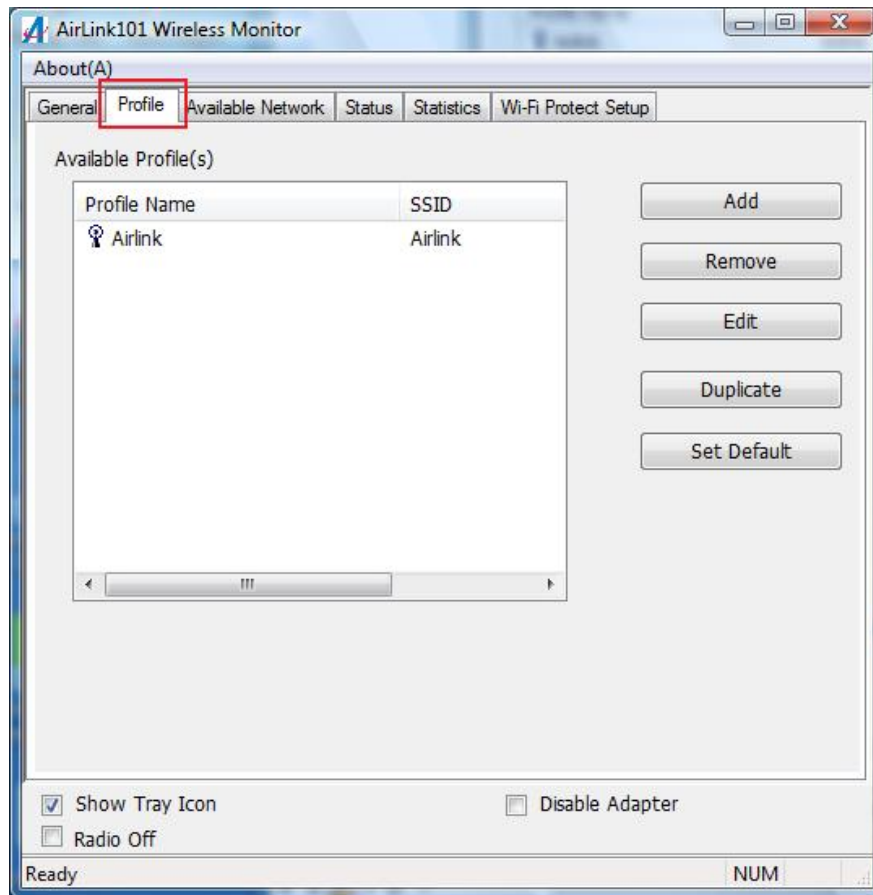
**Show Tray Icon** allows you to show or hide the tray icon for the utility.

**Radio Off** disables the wireless function of the adapter.

**Disable Adapter** will completely disable the wireless adapter.

## 4.2 Profile Settings

The **Profile** tab lists the current profiles and allows you to create new profiles.

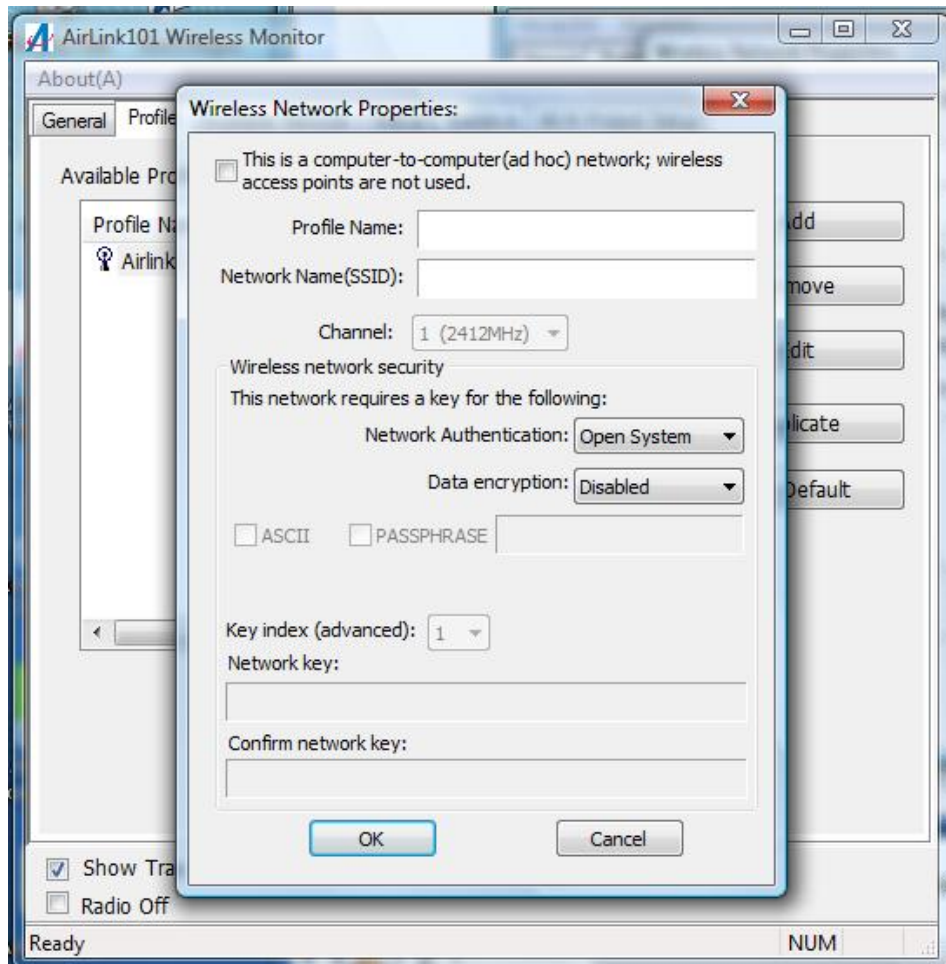


The **Available Profile(s)** box lists all the profiles that you've created for your network. Profiles are automatically created and added to this list when you connect to new networks. You can also manually add the profiles.

To modify an existing profile, select the profile from the **Available Profile(s)** box and click on **Edit**.

To create a new profile, click on **Add**.

The **Profile** box will appear allowing you to specify the settings for your new profile or to change settings for your existing profile.



Enter a **Profile Name** and **SSID**. Enter the encryption settings for the profile. Click **OK** to save the changes.

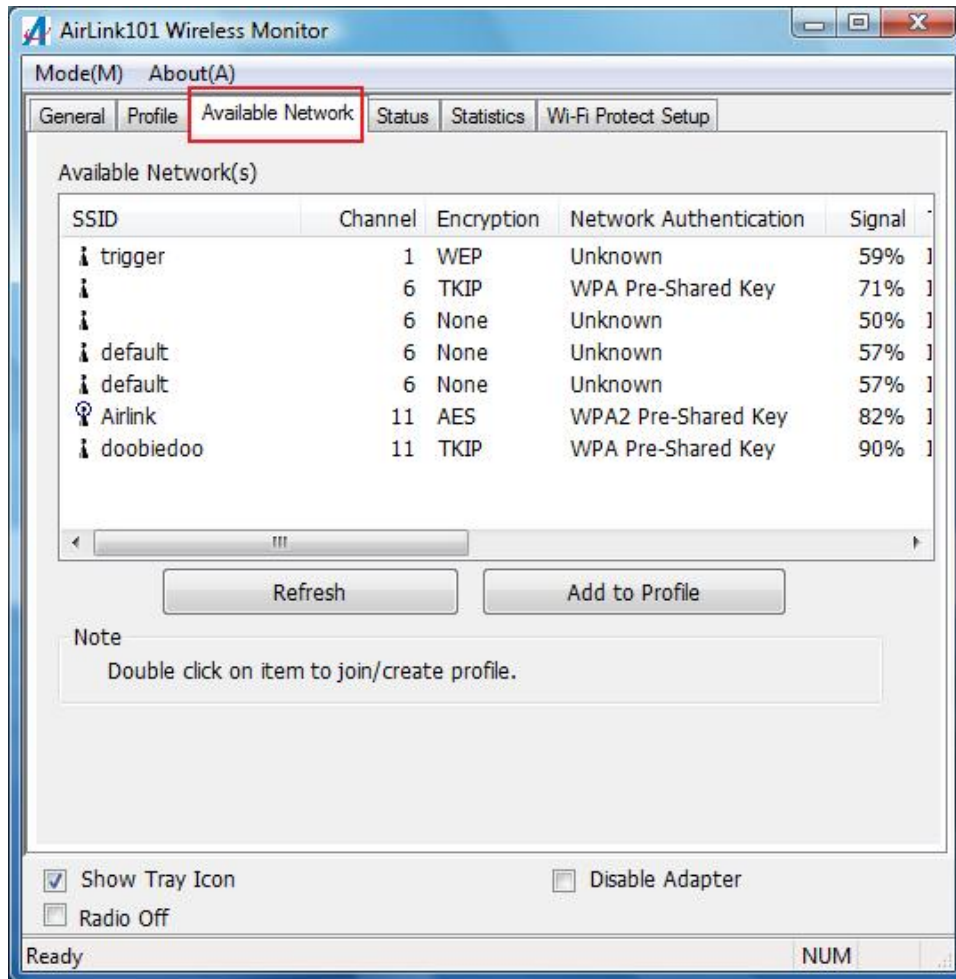
The Configuring Encryption section (section 4.7) will give you the information of how to set the different options of the wireless network encryption settings.



### 4.3 Available Network

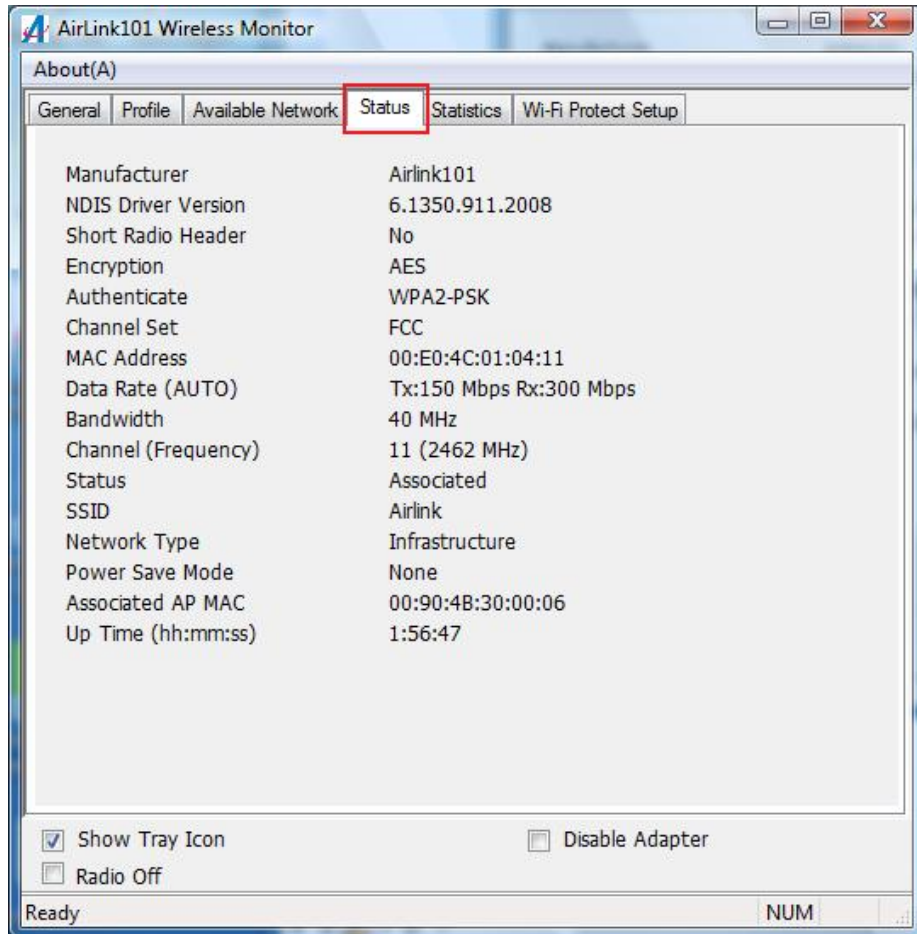
The Available network tab lists all of the networks that the adapter detects in your area.

Clicking **Refresh** will refresh the list. To connect to a network, select a network from the list and click **Add to Profile**.



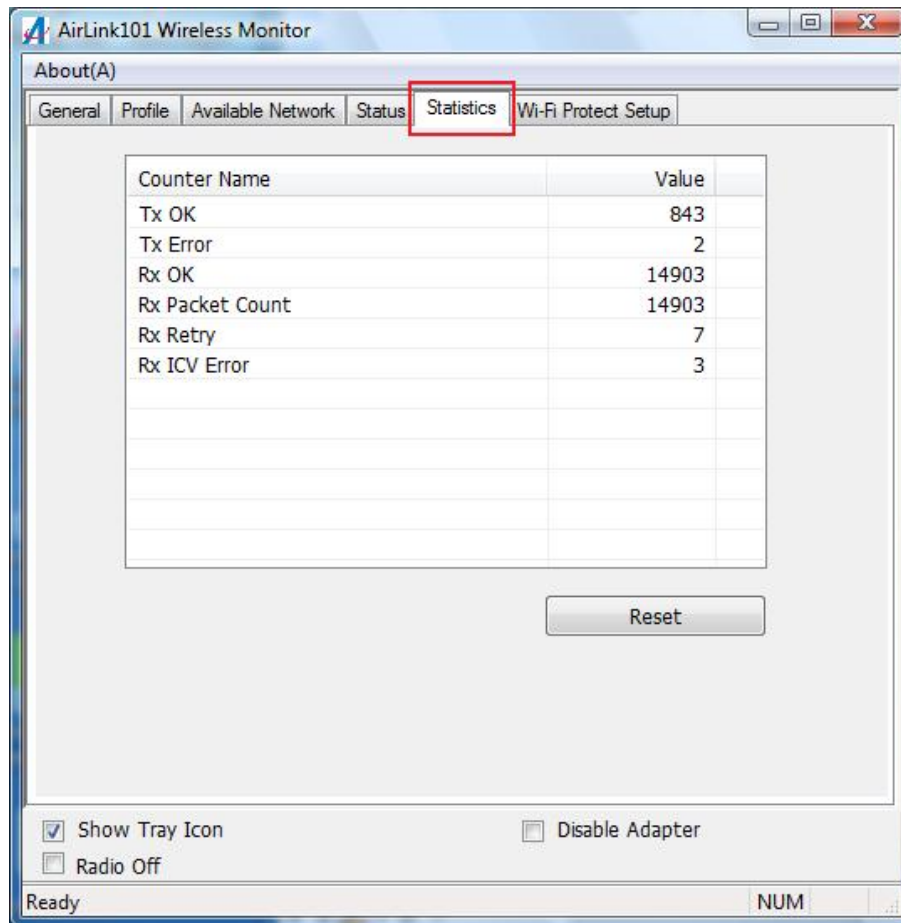
## 4.4 Status

The status section provides you with a list of information about the current status of the adapter.



## 4.5 Statistics

The Statistics section gives you information about transmit and receive packet count.



## 4.6 Wi-Fi Protected Setup (WPS)

The Wi-Fi Protected Setup™ (**WPS**) is a new and easy way to configure the encryption for your wireless network clients. In order to use it, you need to have a router that supports this feature, like the AR670W Airlink101 Wireless N Router. You also need to configure the wireless encryption on the router; you should find the instructions for configuring it in the router User Manual. If your wireless router does not support WPS, you will need to set up the wireless security manually and you can skip this section.

We are using the AWLL6077 Adapter and the AR670W Airlink101 Wireless N router to illustrate the following setup instructions.

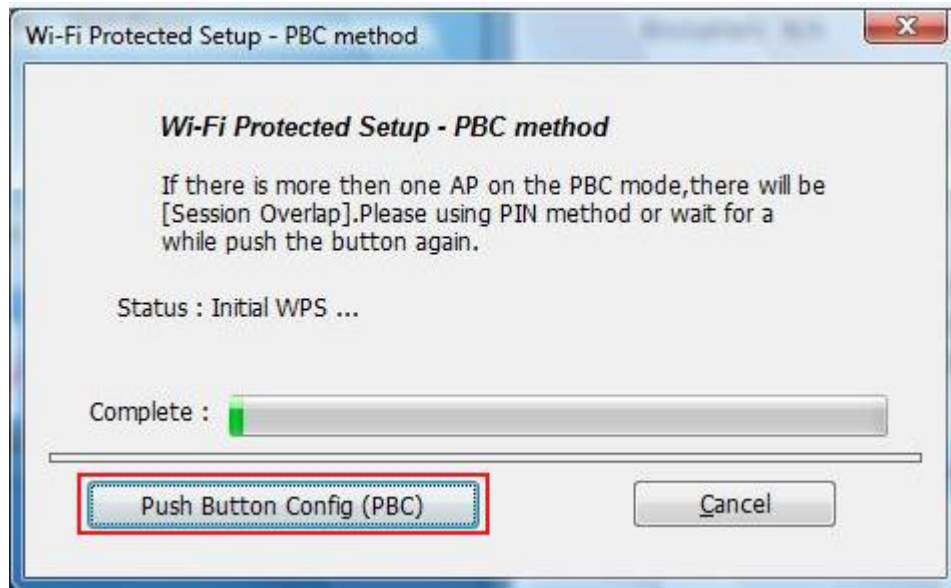
**Step 4.6.1** Open the Airlink101 Wireless Monitor. Click the **Wi-Fi Protect Setup** tab.



Choose your configuration method:

- For **Push Button method**, click Push Button Config (PBC) tab, continue to Step 4.6.2a
- For **Pin Input Config** method, click Pin Input Config (PIN) tab., continue to Step 4.6.3a

**Step 4.6.2a** If you choose the Push Button method; click the **Push Button Config (PBC)** tab.



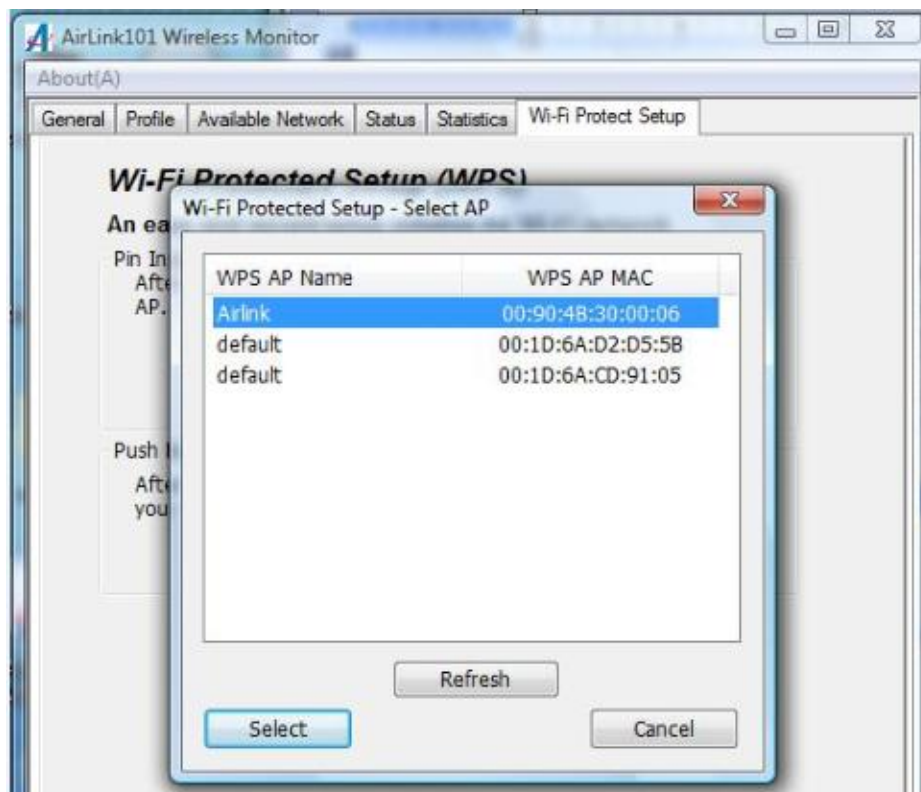
**Step 4.6.2b** Push the WPS button on the router, and the blue LED of AR670W will start blinking. The router will now start the handshake with wireless adapter. The connection will be built up in couple minutes.



**Step 4.6.3a** If you choose the Pin Code method, write down the **PIN** and click **Yes**.



Select the Access Point that you want to connect, and then click **Select**.







**Step 4.6.3b** Log on to your router's configuration page from the web browser and click on **Wireless**. Then click **Wireless Security**. Make sure that the Wi-Fi Protected Setup **Enable** box is checked. Click the **Add Wireless Device Wizard** button.

The screenshot shows a web-based configuration page for a router. The top navigation bar includes tabs: Setup, **Wireless**, Security, Access Restrictions, Application & Gaming, Administration, and Status. Under the 'Wireless' tab, there are sub-tabs: Basic Wireless Settings, **Wireless Security**, Wireless MAC Filter, and Advanced Wireless Settings. The 'Wireless Security' sub-tab is active. The 'Security Mode' is set to 'Disabled'. The 'Enable' checkbox is checked. The 'Current PIN' is 85282483. There are buttons for 'Generate New PIN' and 'Reset PIN to Default'. The 'Wi-Fi Protected Status' is 'Enabled / Not Configured'. There are buttons for 'Reset to Unconfigured' and 'Add Wireless Device Wizard'. At the bottom, there are 'Apply' and 'Cancel' buttons.

**Step 4.6.3c** Enter the Pin Code in the **Pin Number** box and click **Connect**.

Draft 802.11n Wireless Router	
<b>Wi-Fi Protected Setup</b>	<p>There are two way to add a wireless device to your wireless network: PIN or Push Button.</p> <p>If the wireless device you want to add only comes with a PIN number, enter its PIN number below and press the "Connect" button. It will help you to add this device to your wireless network.</p> <div><b>PIN number :</b> <input type="text"/> <input type="button" value="Connect"/></div> <p>If the wireless device your want to add has both options available, you may use the Virtual Push Button if you prefer.</p> <div><b>Push Button :</b> <input type="button" value="Virtual Push Button"/></div> <div><input type="button" value="Back"/></div>

After a few moments both the router configuration screen and the adapter configuration screen should show a message telling you that a connection is established.

**Step 4.6.3d** Click **Continue** on the router configuration screen.

WPS - The Result of Adding Wireless Device	
<b>WPS Success</b>	<p>You have added the wireless device to your wireless network successfully, please click on the button below to continue.</p> <div><input type="button" value="Continue"/></div>

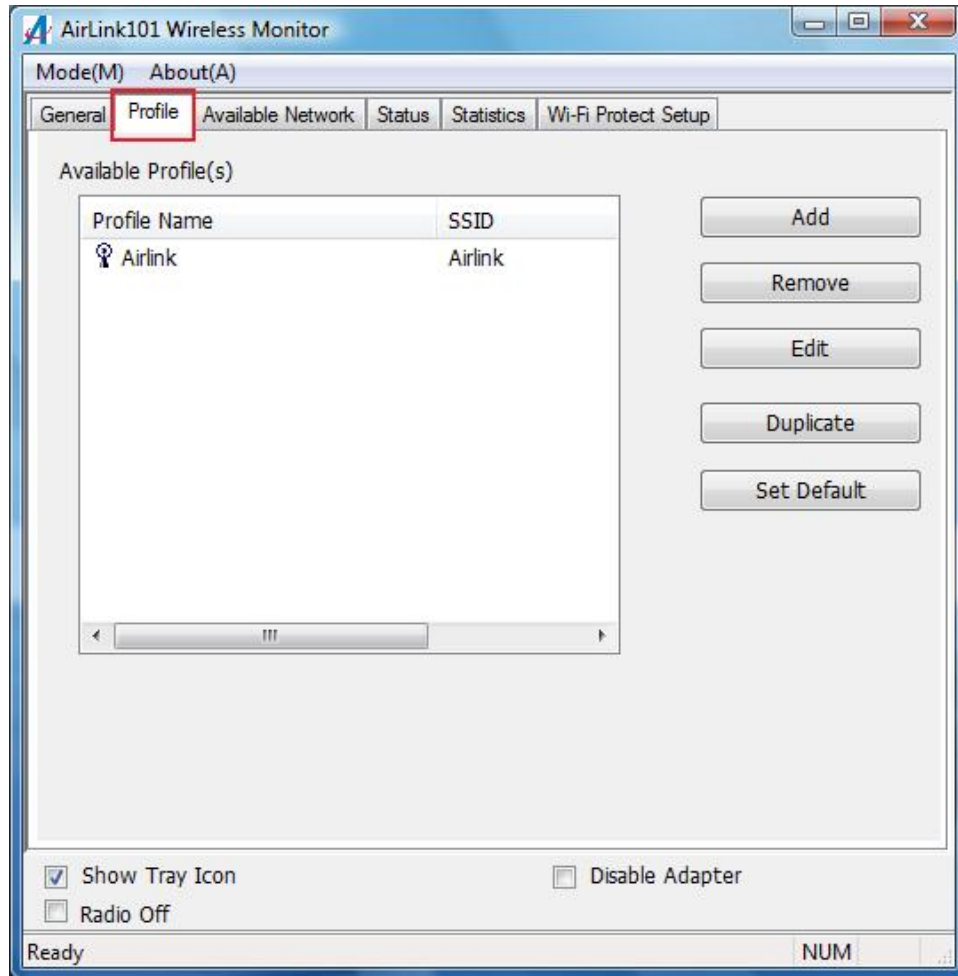
**Note:** If you cannot connect successfully with WPS, you need to log in to your router's configuration and click on **Wireless**. Then click **Wireless security**. Make sure that the Wi-Fi Protected Setup **Enable** box is checked, refer to Step 4.6.3b.



## 4.7 Configuring Encryption

This section describes the different types of encryption available and how to configure them. In most cases, encryption will be automatically configured and all you need is to enter the Network key, as described in **Section 3, Step3.2**. If you are creating a custom profile, you need manually configure the encryption settings.

Open the **Wireless Monitor** utility, click **Profile** tab and then click **Add**.



The different options of wireless network encryption settings are:

**Disable:** No encryption in use

**WEP:** The most popular but least secure form of encryption

**WPA/WPA2-PSK:** The most secure and recommended level of encryption

Wireless Network Properties: ✕

☐ This is a computer-to-computer (ad hoc) network; wireless access points are not used.

Profile Name:

Network Name (SSID):

Channel: 1 (2412MHz) ▼

Wireless network security

This network requires a key for the following:

Network Authentication: Open System ▼

Data encryption: Open System  
Shared Key  
WPA-PSK  
WPA2-PSK  
WPA 802.1X  
WPA2 802.1X  
WEP 802.1X

☐ ASCII ☐ PASSPHRASE

Key index (advanced): 1 ▼

Network key:

Confirm network key:

#### 4.7.1 Configuring WEP encryption

The image shows a Windows-style dialog box titled "Wireless Network Properties:". It contains several fields and options for configuring a wireless network. At the top, there is a checkbox labeled "This is a computer-to-computer(ad hoc) network; wireless access points are not used." Below this are fields for "Profile Name:" and "Network Name(SSID):". A "Channel:" dropdown menu is set to "1 (2412MHz)". Under the "Wireless network security" section, it states "This network requires a key for the following:". Below this, "Network Authentication:" is set to "Open System" and "Data encryption:" is set to "WEP". There are checkboxes for "ASCII" and "PASSPHRASE" with an adjacent text field. A "Key index (advanced):" dropdown is set to "1". At the bottom, there are "Network key:" and "Confirm network key:" text boxes. The "OK" and "Cancel" buttons are at the very bottom.

Select **WEP** from the **Data encryption** box.

Under **Network Authentication**, you will want to select **Shared key** or **Open System**, depending on the router settings.

Select the encryption setting according to the setting of the router.

- **ASCII** or **PASSPHRASE** will also be predetermined by the router. Refer to your routers settings to find out what you should select here.
- or
- **Key Index** is the key on the router that is currently in use. Input the Network key that matches the Network key of the router.

Click **OK** to save your settings.

#### 4.7.2 Configuring WPA/WPA2-PSK Encryption (for home users)

The image shows a Windows-style dialog box titled "Wireless Network Properties:". It contains several fields and options for configuring a wireless network. The "Wireless network security" section is highlighted with a red box. In this section, the "Network Authentication" dropdown is set to "WPA2-PSK", the "Data encryption" dropdown is set to "AES", and the "Key index (advanced)" is set to "1". The "Network key" and "Confirm network key" fields are also highlighted with a red box. The "OK" and "Cancel" buttons are at the bottom.

Wireless Network Properties:

☐ This is a computer-to-computer (ad hoc) network; wireless access points are not used.

Profile Name:

Network Name (SSID):

Channel: 1 (2412MHz) ▼

Wireless network security

This network requires a key for the following:

Network Authentication: WPA2-PSK ▼

Data encryption: AES ▼

☐ ASCII ☐ PASSPHRASE

Key index (advanced): 1 ▼

Network key:

Confirm network key:

OK Cancel

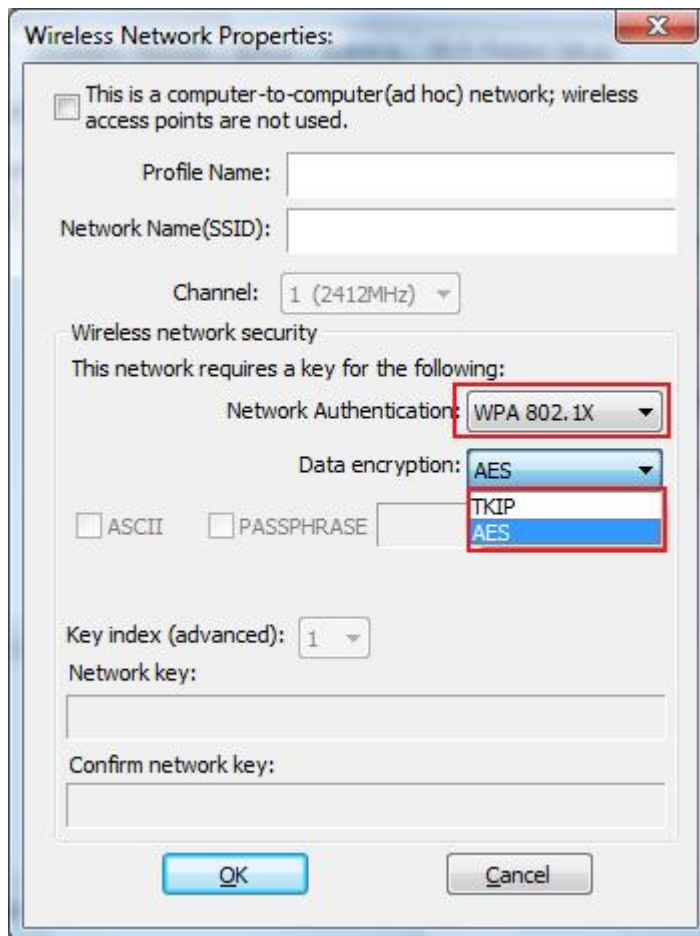
Select **WPA-PSK/WPA2-PSK** from the **Network Authentication** box.

Under **Data encryption** select either **AES** or **TKIP** depending on the settings for your router.

Enter the encryption key that the router is using into the **Network Key** box.

Click **OK** to save your settings.

### 4.7.3 Configuring WPA/WPA2 Encryption (for corporate networks)



Select **WPA 802.1x / WPA2 802.1x** from the **Network Authentication** box.

Under **Data encryption** select either **TKIP** or **AES** depending on the settings for the router.

## 4.8 Ad-hoc and Peer-to-Peer Wireless Networks

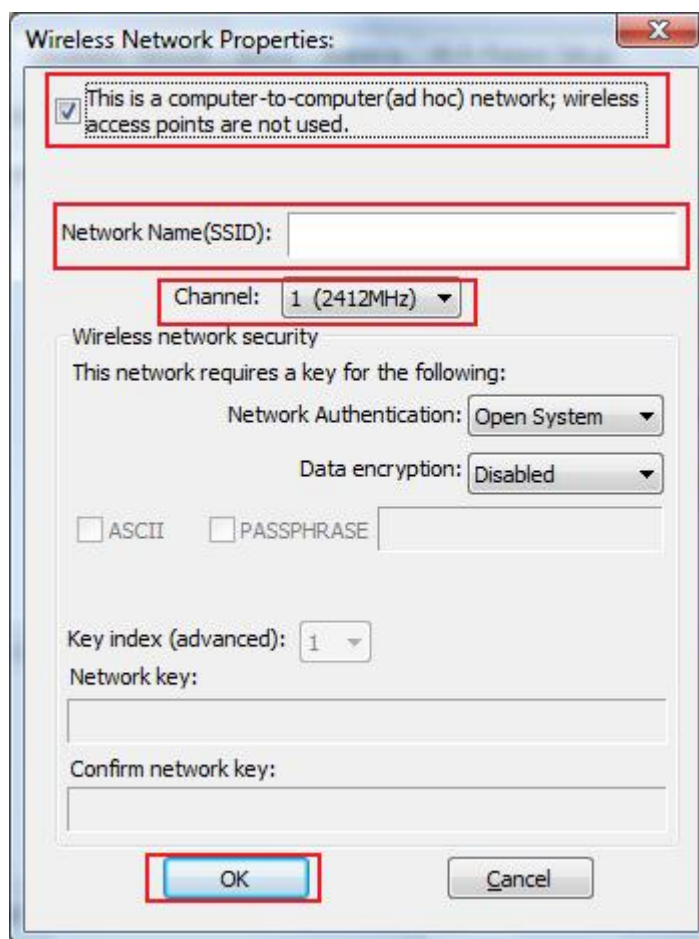
Ad-hoc networking is used when you want to connect two or more computers together but you don't have a router.

In ad-hoc mode, you lose a lot of the features that come with a router. The maximum connection speed drops to 11Mbps. In addition, WEP encryption is the only security available in ad-hoc mode.

To set up ad-hoc mode, you will need to create a new profile.

Open the **Wireless Monitor**.

Click on **Profile** and click on **Add**. The profile settings box will appear.

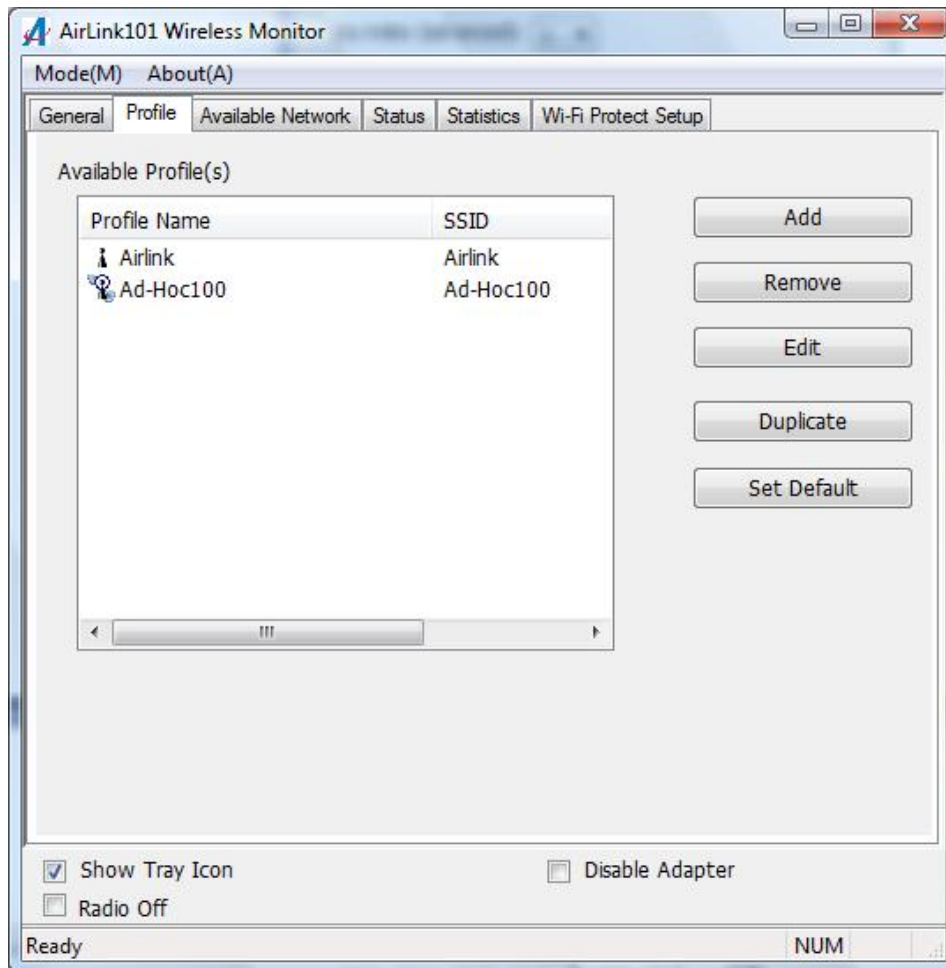
The image shows a Windows-style dialog box titled "Wireless Network Properties:". It contains several fields and options for configuring a wireless network. A red box highlights the checkbox "This is a computer-to-computer(ad hoc) network; wireless access points are not used.", which is checked. Another red box highlights the "Network Name(SSID):" text box. A third red box highlights the "Channel:" dropdown menu, which is set to "1 (2412MHz)". Below these, there is a section for "Wireless network security" with a message "This network requires a key for the following:". It includes dropdowns for "Network Authentication:" (set to "Open System") and "Data encryption:" (set to "Disabled"). There are also checkboxes for "ASCII" and "PASSPHRASE" with an adjacent text box. Further down, there is a "Key index (advanced):" dropdown set to "1", and text boxes for "Network key:" and "Confirm network key:". At the bottom, there are "OK" and "Cancel" buttons, with the "OK" button highlighted by a red box.

First change the network type to **Adhoc**, by checking the computer-to-computer (ad-hoc) network.

Enter a network name (SSID) into the **SSID** box. Select your desired Channel.

You can also choose between no security or WEP security. If you choose WEP security, you can follow the instructions in the **Configuring Encryption** section of the manual.

Click **OK** to save the profile.



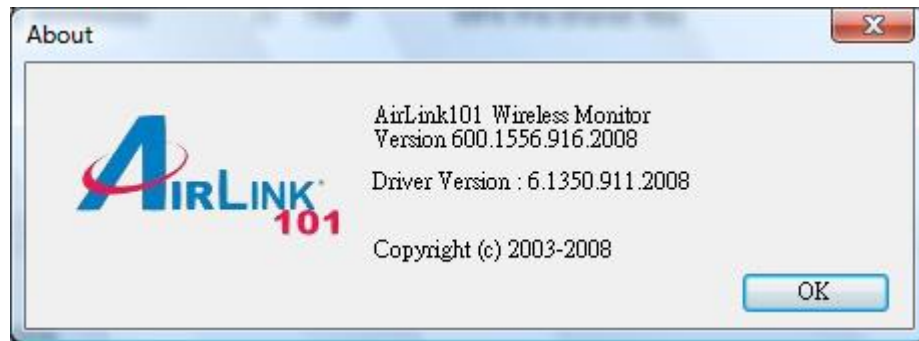
Select your new profile from the Available Profile(s) box, and double click to enable it.

You need to configure all other computers that you are planning on connecting to your ad-hoc network with the same settings that you input on this screen. Every computer has to be set up exactly the same. If any of the settings are different, the network will not function.

**Troubleshooting:** If you are having trouble connecting, slow connection, or connection is unstable, you will want to try changing channels. Start with channel 1 and work your way up until you find a channel that gives you the best connection. Each time you change the channel, save the settings then reboot the computer. Also,

make sure that you do this on every ad-hoc machine so that they will all be set to the same channel.

## 4.9 About



The **About** window provides the information about the Wireless Monitor Utility version and the current driver version.



## Appendix A - Specification

### Frequency Band

- 2.4Ghz

### Standards

- IEEE 802.11b / 802.11g
- IEEE 802.11n draft 2.0

### Interface

- USB 2.0

### Data Rate

- Downlink: 300Mbps
- Uplink: 150Mbps

### Antenna type

- Built-in 2 print antennas

### Security

- WPA2/WPA-PSK (AES)
- TKIP and WEP support  
802.11b/g mode only

### LED

- Link/Power

### QoS

- WMM

### System requirement

- Windows 2000, XP and Vista
- Available USB slot

### Weight

- 18g

### Dimensions

- 81 x 23 x 10.5mm (L x W x H)

### Temperature

- Operating: 0°C to 55°C
- Storage: -20°C to 70°C

### Humidity

- Operating: 10% to 80% Non-Condensing
- Storage: 5% to 90% Non-Condensing

### Warranty

- Limited 1-year warranty

### Safety Approvals

- FCC, CE, IC

## Technical Support

E-mail: [support@airlink101.com](mailto:support@airlink101.com)

Toll Free: 1-888-746-3238

Web Site: [www.airlink101.com](http://www.airlink101.com)

\*Theoretical maximum wireless signal rate derived from IEEE standard 802.11g and draft 802.11n specifications. Actual data throughput will vary. Network conditions and environmental factors, including volume of network traffic, building materials and construction, mix of wireless products used, radio frequency interference (e.g., cordless telephones and microwaves) as well as network overhead lower actual data throughput rate. This product is based on IEEE draft 802.11n specification and is not guaranteed to be compatible with future versions of IEEE 802.11n specification. Compatibility with draft 802.11n devices from other manufactures is not guaranteed. Specifications are subject to change without notice. Photo of product may not reflect actual content. All products and trademarks are the property of their respective owners. Copyright ©2009 Airlink101®